

5. INACTIVATION DRAWINGS

This section identifies the Engineering Change Form (ECF) numbers, the Facility Change Form (FCF) numbers, work order numbers, and the drawings that were either revised or inactivated in association with the D&D of the CPP-627 RAF at INTEC.

5.1 FCF 7251

This FCF was developed for the deactivation, decontamination, and decommissioning of systems and structures associated with Buildings CPP-627 and CPP-685. The following work orders were prepared under this FCF:

Asbestos Abatement – Project Work Order 04-038

A&B Line – Project Work Order 04-259

CPP-627 Demolition – Project Work Order 05-318

CPP-627 Demolition – Project Work Order 05-343.

Table 5-1 lists drawings revised or inactivated for FCF 7251.

Table 5-1. Drawings revised or inactivated for FCF 7251.

Revised	Inactivated
379453(E)	162751
378454(E)	432554
378454(E)	162752
055352(M)	444656
055353(M)	162753
055353(M)	502741(E)
156372(E)	427824
156372(E)	427828
057772	508168(E)
057772	425099
096778(M)	516558(E)
096778(M)	42509902
162750	623353(E)
162750	441681
103162	623354(E)
103162	185708
103210	623355(E)
103210	185707
103211	623356(E)
103211	103051
103212	623357(E)
103212	103244
103240	623358(E)
103240	104096
141159	626170(E)
141159	340414
141160	626171(E)
141160	340415
056623(M)	626172(E)
055705(M)	626173(E)
055705(M)	424925
	426636
	T1ELEC(E)

Note: (M) = master facility, (E) = essential.

5.2 FCF 7359

This FCF was developed for the isolation of the Fire Alarm, Emergency Communication System, Evacuation System, Voice Paging System, and Criticality Alarm System necessary to complete the deactivation of CPP-627. The following work order was prepared under this FCF:

CPP-627 Deactivation – Project Work Order 04-237.

Table 5-2. Drawings revised or inactivated for FCF 7359.

Revised	Inactivated
None	427829 ^a
	427828 ^a
	440558 ^a
	440557 ^a
	431018 ^a
	431017 ^a
	431016 ^a
	440581 ^a
	178421 ^b

a. Document Action Request (DAR) 112947, complete 06/10/04.
b. DAR 112948, complete 06/10/04.

6. VOLUME OF WASTE GENERATED

Waste determination and disposal forms were prepared for generated wastes. Waste determinations involved characterizing, removing, packaging, and transporting the waste to an appropriate disposal site in accordance with ICP procedures and requirements. Waste Generator Services and the Packaging and Transportation Department supported the completion of waste stream removal and disposal. Because the project was performed as a CERCLA project, the majority of waste was disposed of in the ICDF. RCRA-regulated waste was shipped off-Site to Envirocare. Mixed low-level waste and the hazardous/universal PCBs were shipped off-Site. Table 6-1 provides wastes generated by the building D&D.

Table 6-1. Wastes generated during D&D of Building CPP-627.

Building ID	Nonhazardous Waste (yd ³)	Asbestos (yd ³)	Hazardous Waste (yd ³)	Low-Level Waste (yd ³)	Recycled Waste (yd ³)	TSCA PCB (yd ³)	Universal Waste (yd ³)	Mixed Low-Level Waste (yd ³)
CPP-627	— ^a	84.33	— ^a	139.21	— ^a	3.33	— ^a	4,543.71 ^b

a. “—” = no waste of this type generated.

b. 27.63 yd³ was sent to Envirocare related to the RCRA-covered process equipment waste lines.

7. CHARACTERIZATION REPORT

This post-D&D characterization section documents the types and amounts of radiological contamination present after completion of the CPP-627 D&D project. This characterization includes results from the post-D&D radiological surveys. As discussed in Section 3, a concrete barrier was poured over the existing CPP-627 slab to prevent future infiltration of water, consistent with the CERCLA Action Memorandum (DOE-NE-ID 2004a). Characterization of the soils under the slab will be addressed under a future project that will include the adjacent CPP-601/-640 facilities. Figures 7-1 through 7-3 are the results of the radiological surveys and characterization of the completed project.

**ORIGINAL AND
COPY-BLACK**

BARCODE #

E S.: 627
AREA/ROOM: outside
RWP #: 31005414
LOG #: 7
DATE: 11-22-05
TIME: 1545

ROUTINE NON ROUTINE (SPECIFY) FOLLOW UP

JOB DESCRIPTION

COMMENTS: Reduce CAIRN - Shine from below Rock
on # 3, 47, 56 & 59 on floor - a couple of areas
not direct scanned due to Back ground from wall to High
23, 24, 25, 26, 27, 33, 34, 49, 50, 51, 52, 53, 65, 66, 67, 768 on walls.

REVIEWED BY:

RCT: Frank Morris / Bill Morris
PRINT/SIGNATURE

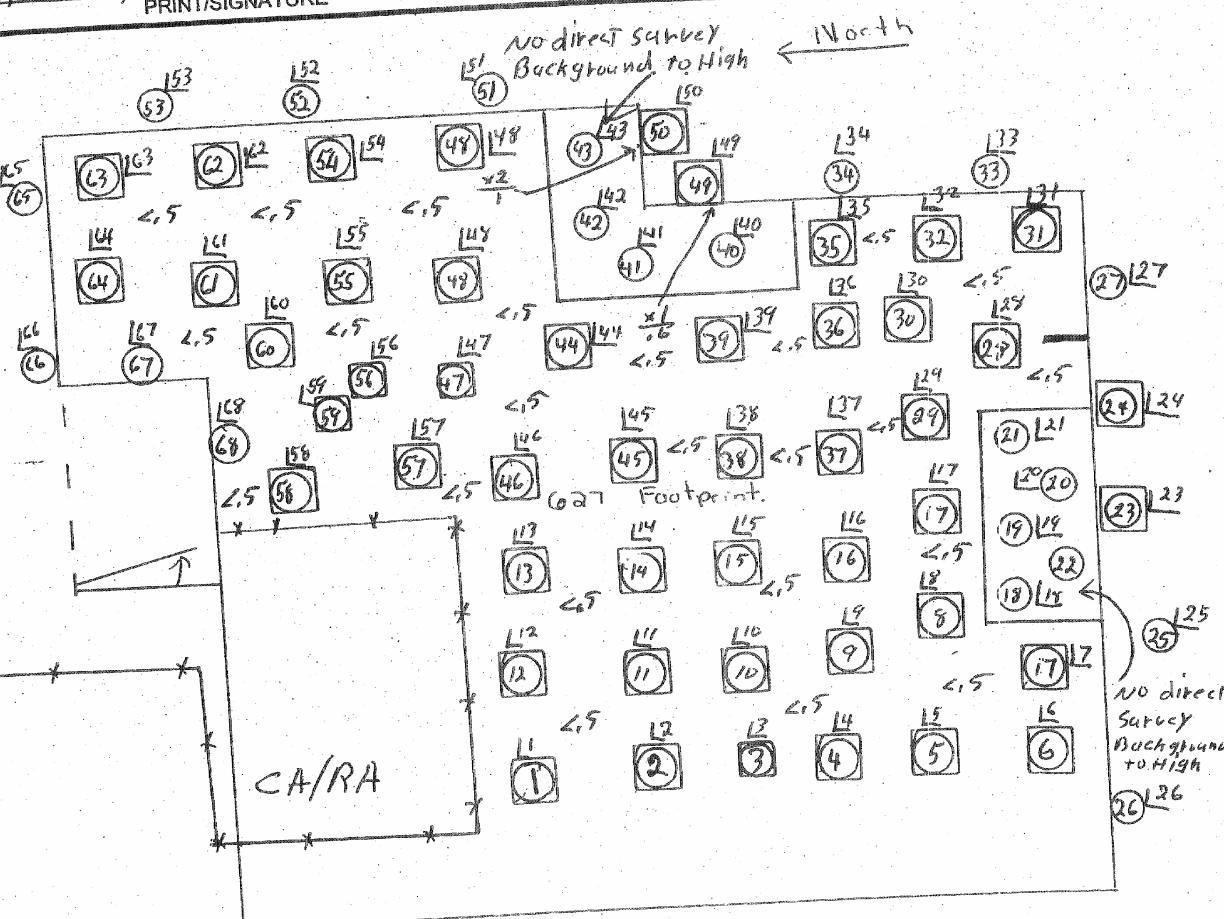


Figure 7-1. Results of the radiological surveys and characterization of the completed project, November 22, 2005.

441.45#
10/10/97
Rev. #03

RADIOLOGICAL SURVEY REPORT

INSTRUMENTS		
Type	Serial #	Efficiency
M-3	802324	10
Electra	801766	10
	N/A	%
Scaler	851183	34 %By
3030		29 %O
R020	801658	
N/A		N/A

SURVEY DATA AND LEGEND

SURVEY DATA AND LEGEND
ALL SWIPE, LARGE AREA WIPE (LAW), AND DIRECT SCAN SURVEY LOCATIONS ARE IDENTIFIED ON THE MAP. THOSE LOCATIONS WHERE ACTIVITY IS GREATER THAN OR EQUAL TO THE RADCON MANUAL (RCM) TABLE 2-2 LIMITS* ARE RECORDED BELOW.

CA	Contamination Area
HCA	High Contamination Area
RA	Radiation Area
HRA	High Radiation Area
VHRA	Very High Radiation Area
RMA	Radioactive Material Area
ARA	Airborne Radioactivity Area
RBA	Radiological Buffer Area
FCA	Fixed Contamination Area
SCA	Soil Contamination Area
URMA	Underground Radioactive Material Area
SOP	Step-Off Pad

-x-x- Radiological Barrier

All dose rates are in mrem/hr, unless otherwise noted.

#	General Area Dose Rate
#@#(cm)	Dose Rate at Distance From Source
#"	Contact Dose Rate
#β / #γ	Beta Corrected / Gamma Dose Rates
α	Alpha
β	Beta
γ	Gamma
n	Neutron

= Direct Scan

 = Swipe (Smear)

= Large Area Wipe (LAW)

Δ = Air Sample

 = Tritium Swipe

Figure 7-1. (continued).

441.45#
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RADIOLOGICAL SURVEY REPORT
ORIGINAL-RED
COPY-BLACK

BARCODE #

BLDG.: 627
AREA/ROOM: Demo Area
RWP #: 3100 S 253
LOG #: 5
DATE: 1300
TIME: 11-23-05

ROUTINE JOB DESCRIPTION
 NON ROUTINE (SPECIFY) FOLLOW UP

COMMENTS:

Performed Radiation Survey on 627 Footprint after Concrete was poured. I used a Bitron Micro rem X O.I. Scale Not Searched I used X1 scale

RCT: Tommy Gentry

PRINT/SIGNATURE

REVIEWED BY: LLS

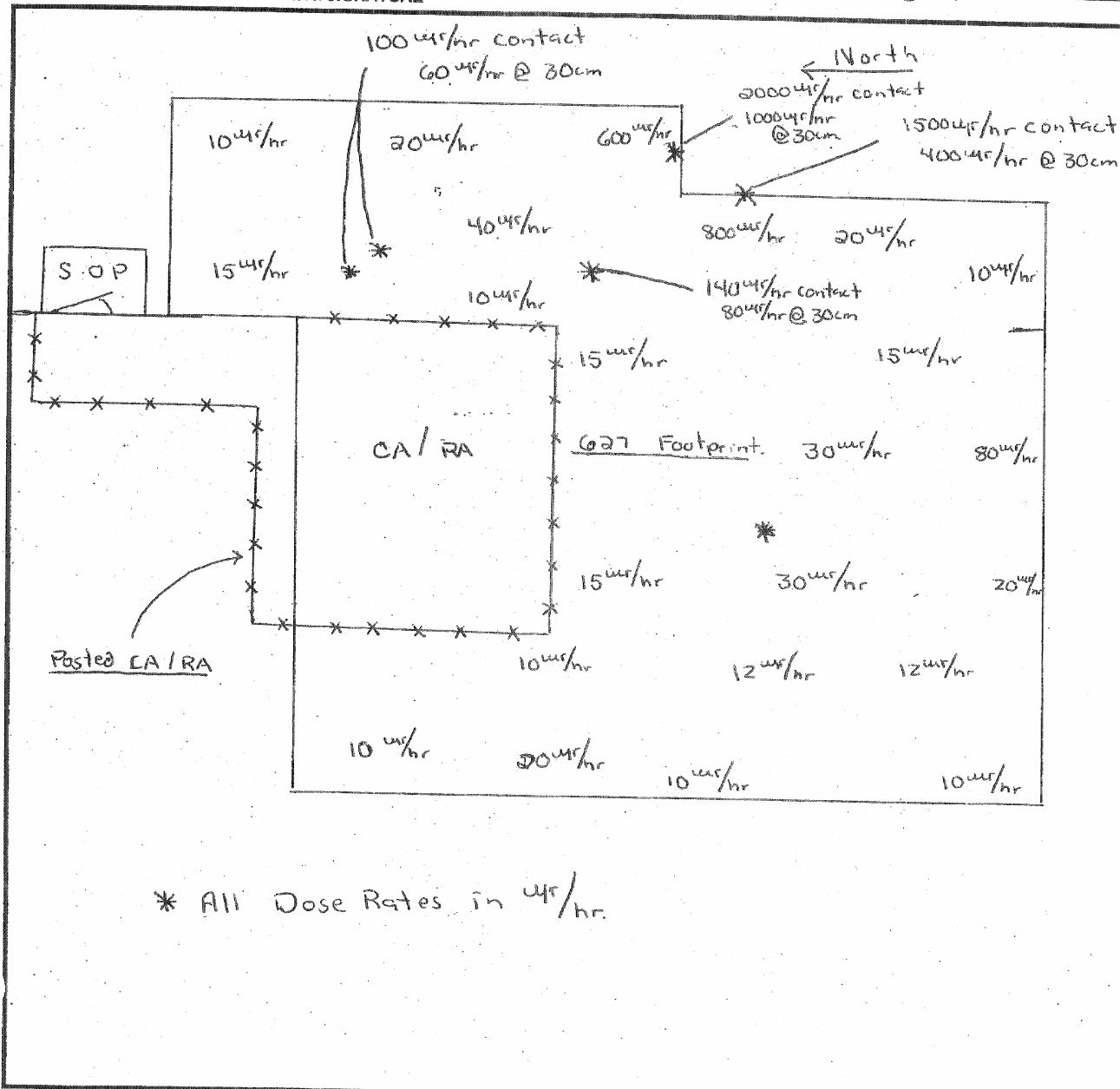


Figure 7-2. Results of the radiological surveys and characterization of the completed project, November 23, 2005.

441.45#
10/10/97
Rev. #03

RADIOLOGICAL SURVEY REPORT
ORIGINAL-RED
COPY-BLACK

BARCODE #

BLDG.: 627
AREA/ROOM: outside
RWP #: 31004715
LOG #: 2
DATE: 11-24
TIME: 1620

ROUTINE **JOB DESCRIPTION**

NON ROUTINE (SPECIFY) FOLLOW UP

COMMENTS: Release of CA from C4/HA. The rest of the area down posted from CHRA to CA

RCT: Steve - Major
PRINT/SIGNATURE

REVIEWED BY: MSJ

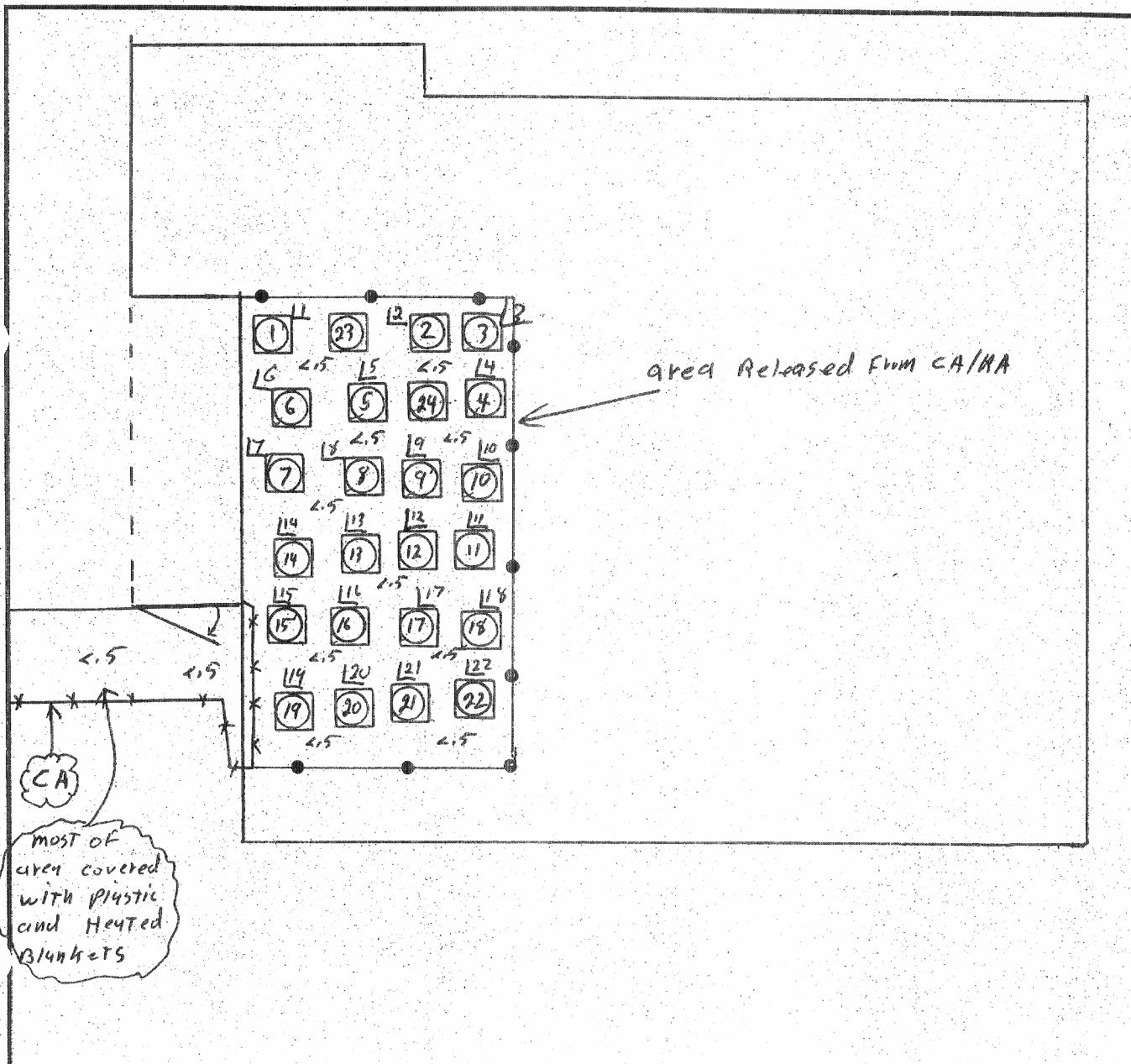


Figure 7-3. Results of the radiological surveys and characterization of the completed project, November 28, 2005.

441.45#
10/10/97
Rev. #03

RADIOLOGICAL SURVEY REPORT

INSTRUMENTS		
Type	Serial #	Efficiency
M-3	802321	10 %
electric	801766	10 %
	N/A	%
Scaler	851183	34 % by
3030		29 % by
H020	850433	
	N/A	

SURVEY DATA AND LEGEND

ALL SWIPE, LARGE AREA WIPE (LAW), AND DIRECT SCAN SURVEY LOCATIONS ARE IDENTIFIED ON THE MAP. THOSE LOCATIONS WHERE ACTIVITY IS GREATER THAN OR EQUAL TO THE RADCON MANUAL (RCM) TABLE 2-2 LIMITS* ARE RECORDED BELOW.

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FCA	Fixed Contamination Area
SCA	Soil Contamination Area
URMA	Underground Radioactive Material Area
SOP	Step-Off Pad

-x-x- Radiological Barrier

ALL dose rates are in mrem/hr, unless otherwise noted.

General Area Dose Rate

#@(cm) Dose Rate at Distance From Source

Contact Dose Rate

β / # γ Beta Corrected / Gamma D Alpha

α Alpha
 β Beta

Beta
Gamma

Gamma
Neutron

WILSON

== Direct Scan

O = Swipe (Smear)

L = Large Area Wipe (LAW)

 = Air Sample

 = Tritium Swipe

Figure 7-3. (continued).

8. COST AND SCHEDULE

Planning and field documentation for the CPP-627 D&D project began in September 2003 and continued throughout the project. Regulatory strategy and path forward for the D&D of CPP-627 began in December 2003, and the subsequent CERCLA Action Memorandum authorizing a NTCRA was approved by DOE Idaho in May 2004 (DOE-NE-ID 2004a). The internal demolition (e.g., removal of equipment, decontamination, utility isolations) of the building began in April 2004 and was completed in July 2005. The structural demolition, renovations to permanent structures, pouring of concrete slab, and demobilization began in August 2005 and was completed in January 2006.

The estimated cost to perform the D&D of the CPP-627 RAF building, based on a cost estimate (#2733-A1) prepared in February 2004, was \$8.8 million. The total actual costs for the project at the time of this report were \$7.4 million.

9. POST-DECOMMISSIONING

Final project documentation will be completed, including this final report and the preparation of the final D&D project data files and photos, for inclusion into the Electronic Document Management System for permanent record storage. All records, logbooks, characterization data, plans, and files will be placed into the Electronic Document Management System for permanent record storage.

10. LESSON LEARNED

The following is a list of lessons learned that were captured throughout the CPP-627 D&D project. These lessons learned were developed by members of the project team, including project management, engineering, construction management, crafts, procurement, and other individuals part of the project.

- The ICDF Waste Acceptance Criteria currently states that nothing placed in the landfill shall have greater than 5% void space. Because of this restriction, all conduit and piping must be removed individually, causing additional time, effort, and money.
- Future projects should take the time to perform adequate project planning (i.e., cost, schedule, and technical approach aspect) to increase the chances of success. Two weeks to prepare detailed scope, schedule, and budget on a project of this magnitude and complexity does nothing but increase the risk to the company.
- Future projects should maintain continuity among the project team, especially amongst the radiological support organization. If weekend work is necessary, the project should make sure that at least one radiological support individual dedicated to the project is available so that the work can progress as normal.
- If engineering design services are necessary, future projects should make sure that the project dictates scope and schedule and that engineering commits to it.
- Prior to mobilizing subcontractor(s), future projects should make sure that the project is entirely ready for them. If work is to be completed prior to the subcontractor(s) performing their respective work, the project should make sure that it is 100% completed and no possible standby can occur.
- On complex work scope, future projects should have two or more alternatives to complete the end objective. This is especially needed on projects that have many unknowns associated with them.
- Prior to starting the project, future projects should hold a comprehensive team meeting that clearly establishes roles, responsibilities, and lines of communication. The project should address any issues immediately and get them resolved prior to work beginning.
- When employing a large number of craft personnel, future projects should assign someone from Construction Management (preferably the job site supervisor) with the responsibility of reviewing craft labor charges weekly to ensure appropriate charges.
- Future projects should stay ahead of the paperwork, e.g., work orders, lockout/tagout, outages, permits, that must be completed and approved prior to work.

11. REFERENCES

Angle, B. M., BBWI, to Douglass J. Kuhns, BBWI, April 06, 2004, "Approval of the Environmental Checklist CPP-627 DD&D – CERCLA Removal Action (INTEC-04-004)," BMA-030-04.

DOE O 430.1B, 2003, "Real Property Asset Management," U.S. Department of Energy, September 24, 2003.

DOE-NE-ID, 2004a, *Action Memorandum for the Decontamination and Decommissioning of Building CPP-627, the Remote Analytical Facility*, DOE/NE-ID-11164, Rev. 0, U.S. Department of Energy Idaho Operations Office, June 2004.

DOE-NE-ID, 2004b, *Removal Action Work Plan for the Decontamination and Decommissioning of Building CPP-627, the Remote Analytical Facility*, DOE/NE-ID-11158, Rev. 0, U.S. Department of Energy Idaho Operations Office, June 2004.

IAG-242, 2004, "INEEL CERCLA Disposal Facility and Idaho Nuclear Technology and Engineering Center, SP-6 CPP-627 Deactivation and Demolition Project," Rev. 0, Idaho National Engineering and Environmental Laboratory, Idaho Completion Project, June 2004.

PLN-1053, 2003, "Deactivation, Decontamination, and Decommissioning Project Manager's Handbook," Rev. 2, Idaho National Engineering and Environmental Laboratory, Idaho Completion Project, November 2003.